

**STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

**2001 NET SYSTEM POWER CALCULATION
(2001 CALIFORNIA POWER MIX)**

Adopted by the Commission at the
April 3, 2002 Business Meeting

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April 3, 2002

ACKNOWLEDGEMENTS

This report results from a collaborative effort by Energy Commission staff. In particular, the following individuals deserve recognition for their major contributions:

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Introduction

Each year, the Energy Commission is directed by legislation to calculate Net System Power, which represents the mix of fuel types comprising the generic (undifferentiated) pool of power available for sale in California. This information provides consumers a basis for comparing electricity products. For example, if Company A claims that its product is “greener” (better for the environment) than power produced by other companies, the consumer can compare Power Content Labels. The Power Content Label shows the proportions of fuel types comprising the mix of the product offered, as well as Net System Power.

2001 Net System Power

Staff’s estimate of 2001 Net System Power is:

2001 CA POWER MIX	
<u>Fuel Type</u>	<u>Net System Power</u>
Coal	11%
Large Hydroelectric	10%
Natural Gas	50%
Nuclear	16%
Other	1%
Eligible Renewables	12%
Total:	100%

What is Net System Power? The Statutory Definition...

According to Senate Bill 1305 (Stats. 1997, Ch. 796, Section 398.2), Net System Power is “the mix of electricity fuel source types established by California Energy Resources Conservation and Development Commission representing the sources of electricity consumed in California that are not disclosed as specific purchases” by retail service providers.

What is Net System Power? The Practical Definition...

Net System Power is the percentage of annual generation produced for consumption in California during the previous calendar year from each of the statute’s fuel type categories. Imports of out-of-state generation by fuel type are added in, but both self-generation and specific purchases by fuel type are subtracted out.

How Net System Power is calculated:

Net System Power is calculated using a three-step process:

- calculate gross system power by:
 - summing all in-state generation by fuel type
 - estimating imports of power from net flows, and
 - establishing the generation mix for out-of-state generation imports delivered at interface points and metered by the system operators;
- classify and subtract from the gross system power mix all Specific Purchases identified by retail suppliers; and,
- classify and subtract from the gross system power mix all self-generated power.

What Are Specific Purchases?

Specific Purchases refer to retail power sales for which the seller can trace the generation back to a specific generator, and thereby make a claim that the electricity is of a particular fuel type. Retailers who do not wish to claim specific purchases may claim all of their power as Net System Power.

Data Used to Calculate 2001 Net System Power

The 2001 Net System Power report marks the third year that the NSP calculation was made using data collected specifically for this purpose. Prior to 1999, NSP calculations were performed using Quarterly Fuel and Energy Report (QFER) data. Starting in 1999, staff collected generation and out-of-state power flow data from System Operators as provided for under statute (Stats. 1997, Ch. 796, Section 398.3).

In past years Staff has relied on the Investor Owned Utilities (IOUs) to provide data on Qualifying Facilities (QFs) under the QFER data collection program. This year new QFER regulations were adopted that shifted the QF data-reporting responsibilities to the QFs, thereby relieving the IOUs of this responsibility. Because some significant QF filings were not received on time, staff requested that the IOUs provide QF generation for this year. Staff would like to thank the IOUs for providing this data.

Data on Imported Power

Characterization of net imports of electricity to California presents a challenge. While the Energy Commission lacks authority to require out-of-state generators to report directly, System Operators that are located in California, and which own, have entitlements to, or dispatch out-of-state generators, must provide generator-specific energy data on imported power. The remaining power imported from out-of-state entities is estimated from power flow data that is provided by System Operators. These power flow data are adjusted to account for known generator-specific imports (Hoover, Palo Verde, San Juan, etc.).

Allocating Imports of Electricity by Fuel Type

Fuel type allocations for 2001 were assigned based on year 2000 data from the US Department of Energy, Electricity Information Administration (EIA). Both a Northwest mix and a Southwest mix were derived using a weighted-average of EIA generation data from the respective WSCC states. North- and South- aggregations were adjusted to represent a control-area perspective; because Intermountain and Mohave coal plants are located within the California control areas of LADWP and CAISO, these plants' generation are included as part of the native capacity. Stepwise details of the new method follow:

New Method to Allocate Fuel Types

- 1) Sum all 2000 generation in each state in the WSCC using EIA generation data
- 2) Exclude (subtract) generation of Intermountain and Mohave because the system operators which control these plants are located in California.
- 3) Divide other states into two pools: Northern and Southern.
- 4) Sum all Northern states generation by fuel type.
- 5) Apply the mix (relative percentages) of fuel types of entire Northern Pool to the 2001 northern imports.
- 6) Repeat steps 4 and 5 for the Southern Pool.

2001 Net System Power

Net System Power Calculation for 2001		
<u>Fuel Type</u>	<u>Million Kilowatt-hours</u>	<u>Net System Power</u>
Coal	23,274	11.0%
Large Hydroelectric	21,692	10.2%
Natural Gas	106,642	50.3%
Nuclear	32,983	15.6%
Other	884	0.4%
Eligible Renewables	26,367	12.5%
Biomass & Waste	5,518	2.6%
Geothermal	10,805	5.1%
Small Hydro (≤ 30 MW)	6,123	2.9%
Solar	849	0.4%
Wind	3,072	1.5%
Total:	211,842	100%

2000 Net System Power

Net System Power Calculation for 2000		
<u>Fuel Type</u>	<u>Million Kilowatt-hours</u>	<u>Net System Power</u>
Coal	37,229	15.7%
Large Hydroelectric	44,593	18.8%
Natural Gas	83,052	35.1%
Nuclear	40,713	17.2%
Other	3,067	1.3%
Eligible Renewables	28,101	11.9%
Biomass & Waste	5,540	2.3%
Geothermal	10,968	4.6%
Small Hydro (≤ 30 MW)	7,135	3.0%
Solar	860	0.4%
Wind	3,597	1.5%
Total:	236,754	100%